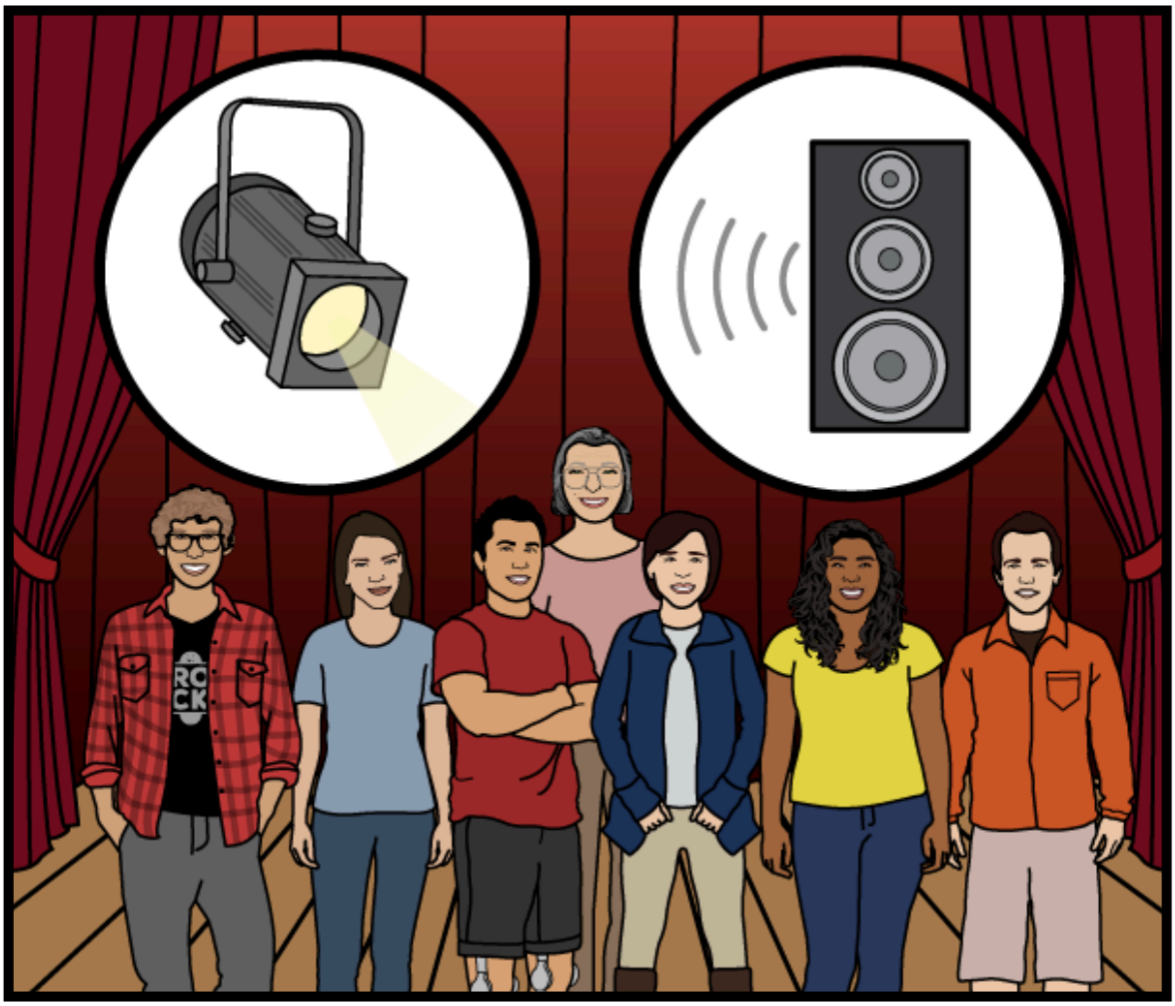
Sound, Lights and the Theater



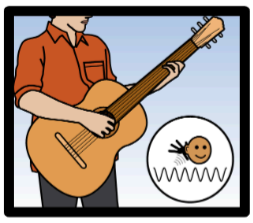
by Molly Tittle

Illustrated by Alex Wisehart

Bind This End

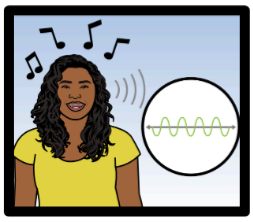
Copyright © 2026 n2y, LLC. All rights reserved.
Unique Learning System®, 2022-2023

Table of Contents

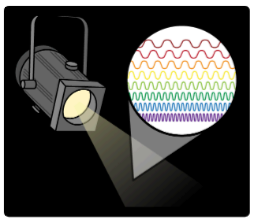


Chapter 1: The Sound Waves of Music.....pg 1

Chapter 2: Turning Up the Volume.....pg 10

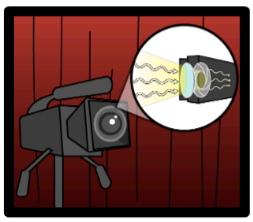


Chapter 3: Finding the Right Pitch.....pg 18



Chapter 4: Light Check.....pg 27

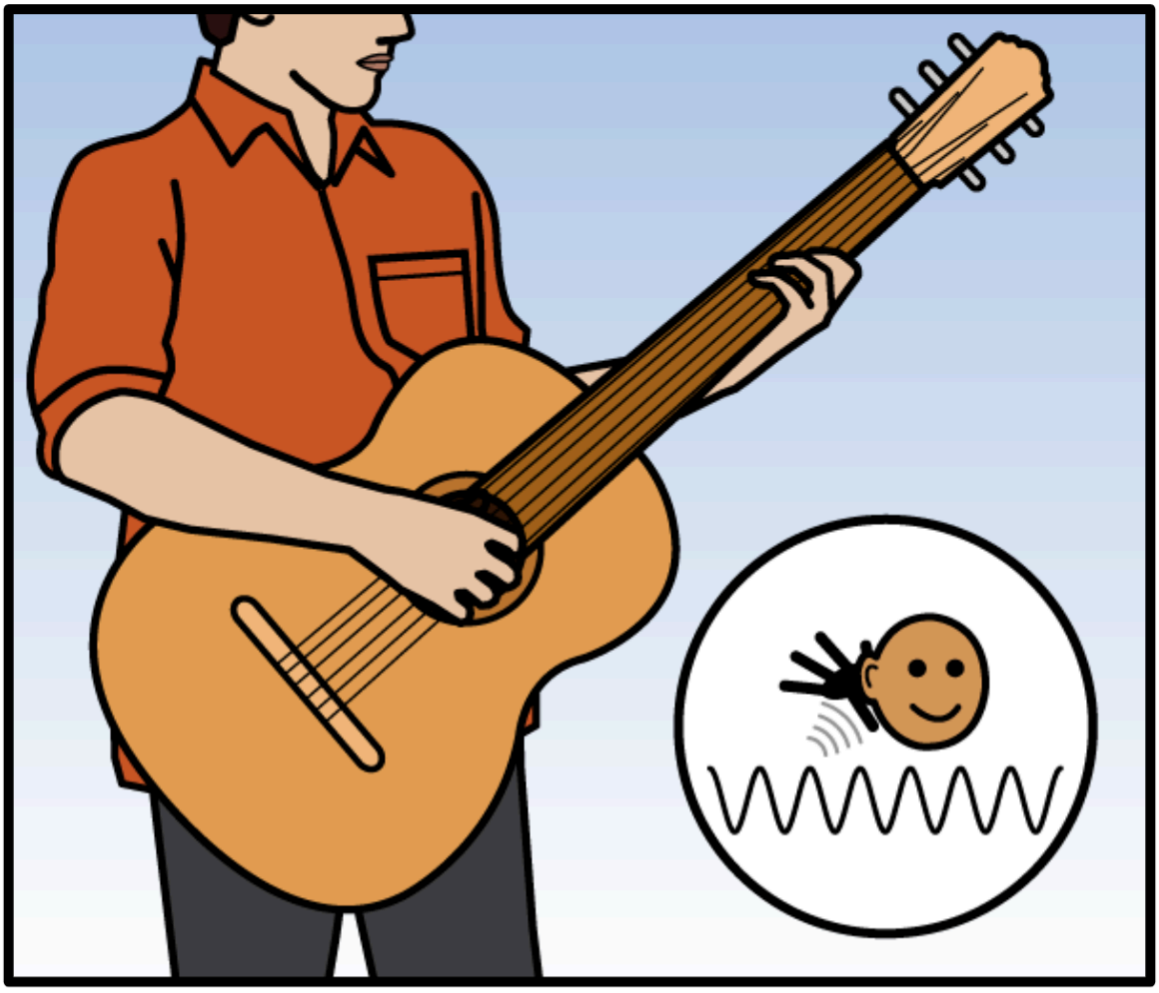
Chapter 5: Lights Up!.....pg 36



Chapter 6: Waves in the Theater.....pg 46

Copyright © 2026 n2y, LLC. All rights reserved.
Unique Learning System®, 2022-2023

Chapter 1: The Sound Waves of Music

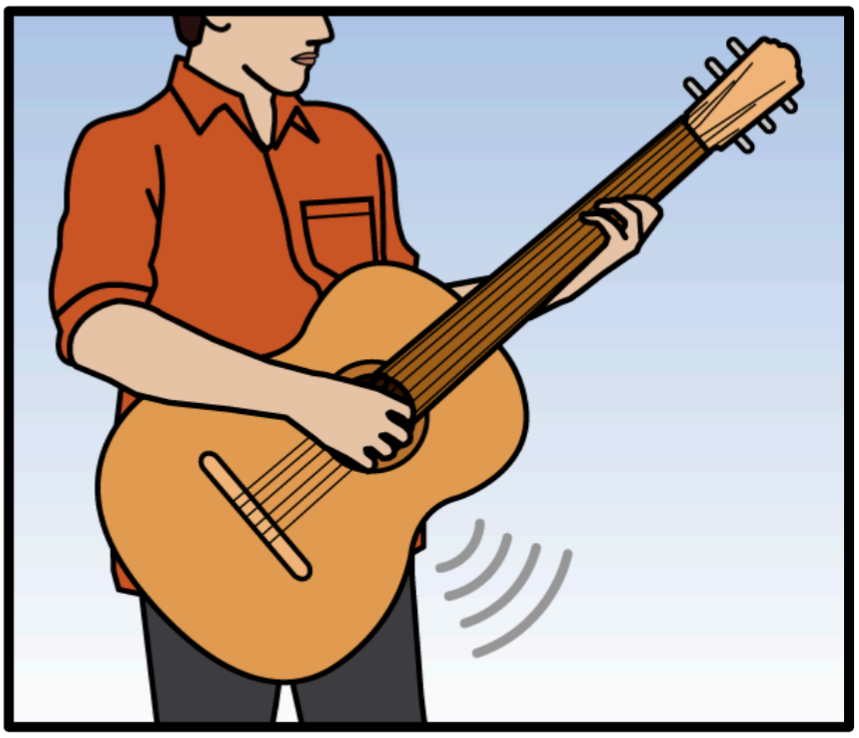


Bind This End

Copyright © 2026 n2y, LLC. All rights reserved.
Unique Learning System®, 2022-2023

The cast of the play is getting ready for opening night. They gather around to practice a few songs before the play begins. Rhett grabs his guitar. Jacinda sits down at the piano. Rhett plucks a string on the guitar to start the song. Sabrina asks, "Why does the guitar make noise?"

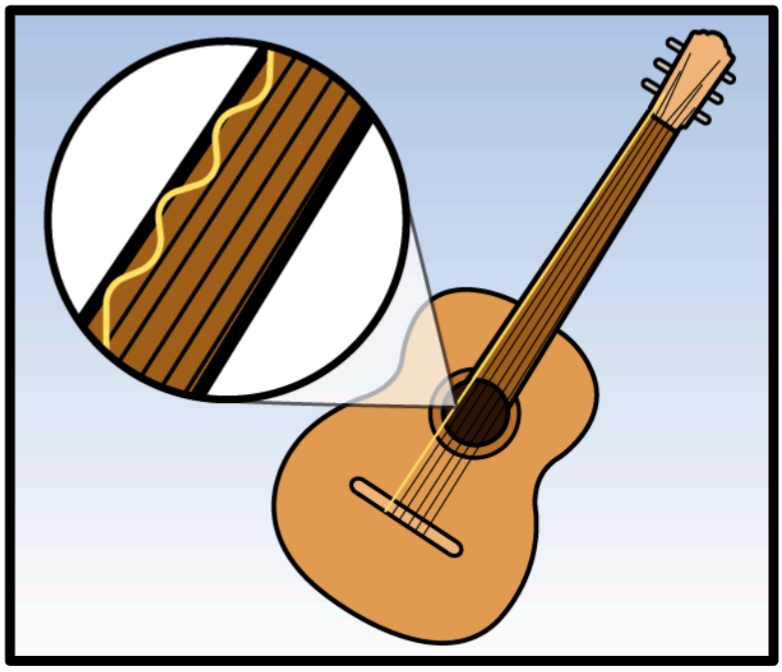
"Let's watch Rhett play that note again and see if we can tell what is happening," says Mrs. Ito.



Rhett plays the note again. The students see the guitar string start to vibrate as they hear the note play. "The string moves," Jacinda says excitedly. "That's right!" says Mrs. Ito.

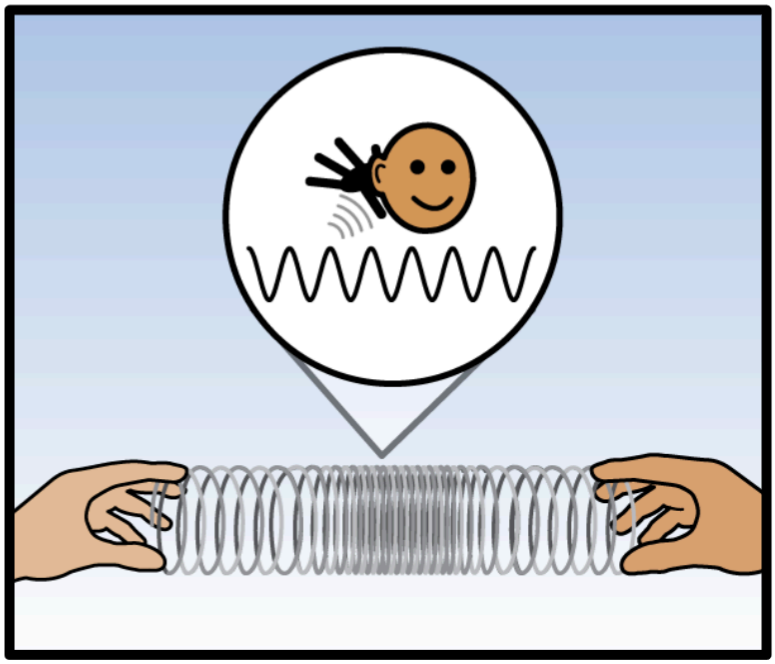
What happens when Rhett plays the note on the guitar?

Rhett plucks the guitar string again. "Sound starts as a vibration. A vibration is a fast movement that goes back and forth. The string vibrates and moves the air around the string. The sound moves through the air in a sound wave. Sound waves are full of energy," says Mrs. Ito.

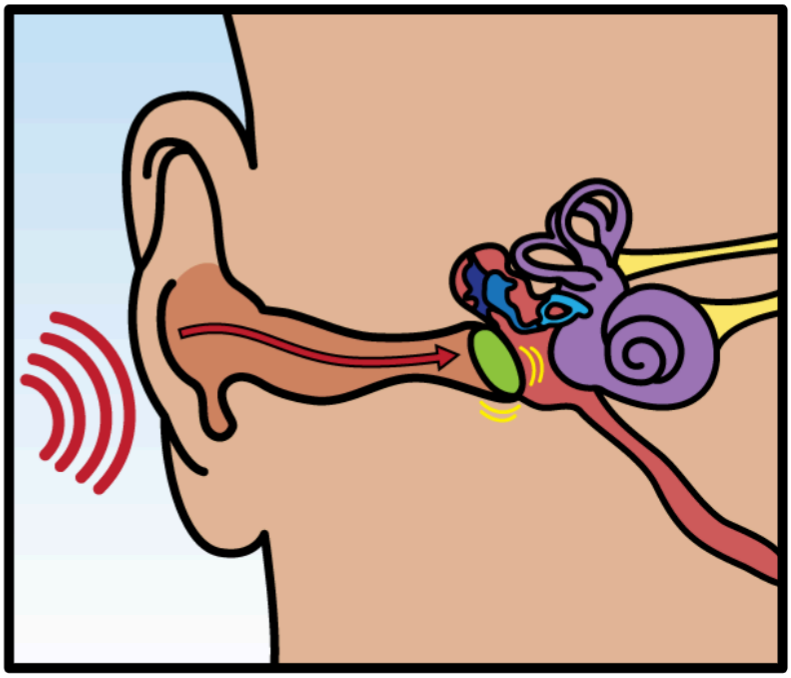


What is a vibration? Demonstrate with hand motions or by flicking a rubber band.

Mrs. Ito pulls a spring toy off the props table. Juan holds one side of the spring toy. Mrs. Ito pushes the other side of the spring toy toward Juan. "The spring toy moves closer together and then apart as the energy moves through the spring toy," says Mrs. Ito. "This is how a sound wave moves through the air."



"The sound wave travels through the air until it hits your ear. It vibrates your eardrum. The nerves in your ear feel the vibrations and send a message to your brain. Your brain tells you what sound you are hearing. That is how sound waves work. This is how people hear things," says Mrs. Ito.

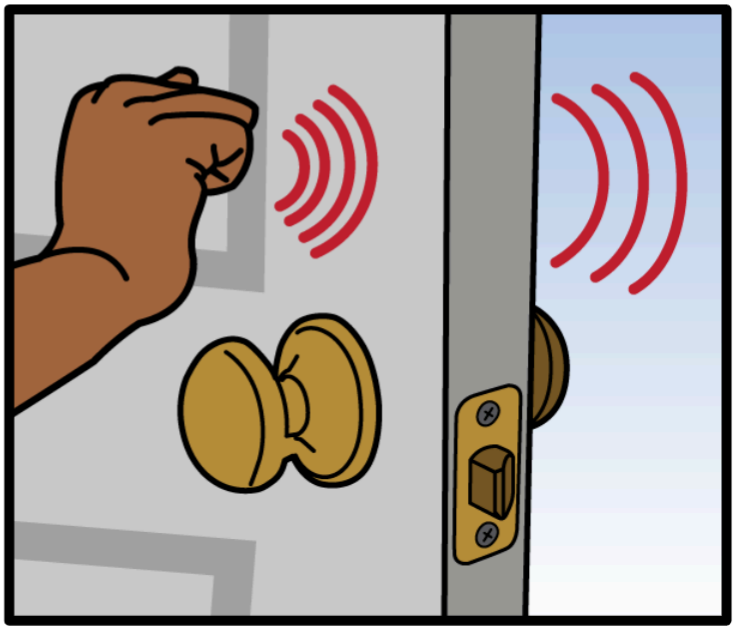


What happens when a person hears a sound?

"Let's explore some other things that make sound. Let's sing and see what we feel as we sing," says Mrs. Ito. The cast sings their opening song. "I feel my throat vibrating, which causes sound when I talk or sing," says Sabrina.

What happens when the cast sings?

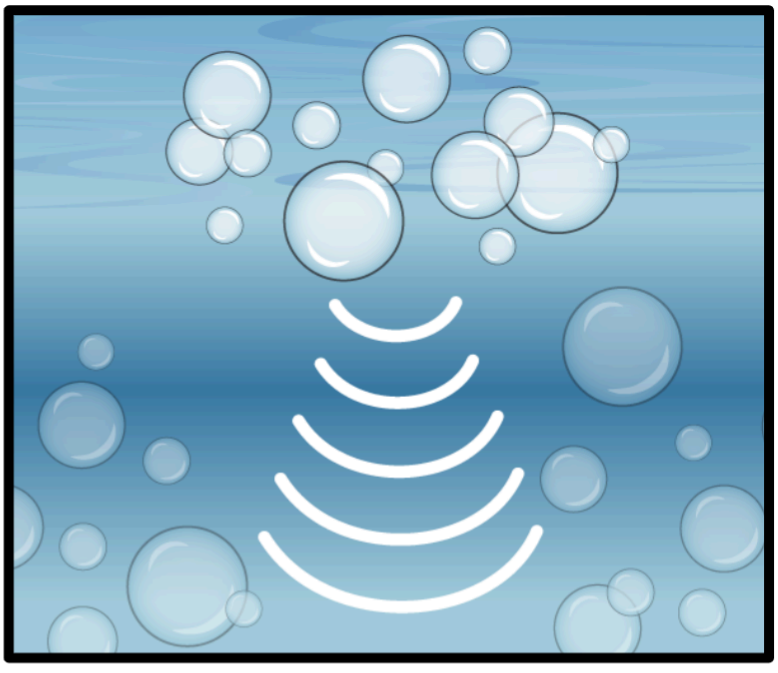
Darcy scratches her head and asks, "So why do I hear sounds from other rooms?" "Sounds can travel through any material.



Sound can travel through water or even solid objects like walls. The sound waves vibrate the particles in the material, and move through other materials just like air," says Mrs. Ito.

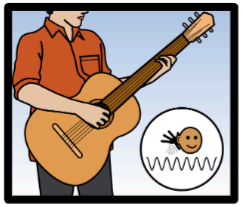
What other things can sound travel through?

"Then why doesn't all noise sound the same when we hear it through a wall?" asks Jody. "The sound wave moves faster and farther through water or a solid object. It sounds different because the particles are closer together. When you are in another room, you are also farther away," says Mrs. Ito. "Let's get back to practicing."



Would you be able to hear a person better in the same room or different room? Why?

yes



The Sound Waves of Music

no

play	make	fast	student	Rhett	guitar	noise
watch	move	together	note	guitar string	sound	air
hear	vibrate	apart	sound wave	spring toy	ear	eardrum
push	send	far	message	brain	water	wall

Within each category, pictures are listed from left to right in the order in which they appear in the text.

Copyright © 2026 n2y, LLC. All rights reserved.
Unique Learning System®, 2022-2023